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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WALLENHORST, MAUREEN	

ART UNIT	PAPER NUMBER
1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,507	WOLLENBERG ET AL.	
	Examiner	Art Unit	
	Maureen M. Wallenhorst	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *1-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1. In response to the order remanding the appeal in this application back to the Examiner mailed on June 20, 2008, the following Office action is taken by the Examiner. It is noted that the rejection of claims 1-38, as set forth in the final rejection mailed on November 4, 2005, has been affirmed by the Board of Patent Appeals and Interferences on September 20 2007. Therefore, these claims will not be treated or considered further in this Office action since prosecution on these claims has been closed by the Board's affirmation of the Examiner's rejections. Applicants are requested to cancel claims 1-38.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

   1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al (US 2004/0123650) in view of O'Rear (US 2003/0100453) and the Condensed Chemical Dictionary (page 20, 10th ed. 1981).

Kolosov et al teach of a high throughput testing method and apparatus for the screening of a library of material samples. The method and apparatus involve combinatorial chemistry that refers to the synthesis of a collection of diverse materials, and the screening of the materials for desirable performance characteristics and properties. The combinatorial approach can effectively evaluate much larger numbers of diverse compounds in a much shorter period of time. The apparatus taught by Kolosov et al includes a plurality of samples supported in wells on a substrate. Kolosov et al teach that the invention can be used to screen libraries of any flowable material that may be a commercial product itself or may be a portion of a commercial product. Exemplary commercial products that can be tested with the apparatus taught by Kolosov et al include lubricants and oils. The invention can be used to analyze the resulting properties of a particular flowing material, and to analyze the relative or comparative effects that an additive has upon a particular flowable material. Additives in a flowable material to be tested include a detergent, a flow modifier, etc. See paragraph nos. 0042-0043 in Kolosov et al. The screening for the effects of different additives upon the characteristics of a flowing material is performed by measuring various properties of the material samples present in the wells on the substrate. Properties measured include the viscosity, the density, the thermal degradation, the aging characteristics, the chemical composition and the agglomeration or sedimentation of the

material samples. See paragraph no. 0065 in Kolosov et al. Once the characterizing properties of the samples are determined, the results may be mathematically combined in various combinations to provide figures of merit for the properties of interest. See paragraph no. 0066 in Kolosov et al. The sample size of each sample in the wells on the substrate is typically no greater than about 20 ml, more preferably no greater than about 5 ml, and most preferred, no greater than about 0.5 ml. See paragraph no. 0054 in Kolosov et al. To form an array of samples on the substrate, Kolosov et al teach that the samples and additives are dispensed into the wells with any suitable dispensing apparatus (i.e. an automated micropipette or capillary dispenser). The dispensing apparatus may have a heated tip, thus providing heating of the samples. Each sample is dispensed to an individually addressable region in the substrate. See paragraph no. 0053 in Kolosov et al. The plurality of samples can vary in number depending upon the intended use of the method, and the plurality of samples can form a library. A library comprises an array of two or more different samples spatially separated on a common substrate. Candidate samples within a library may differ in a definable and predefined way, such as in chemical structure, processing, mixtures of interacting components, the relative amounts of the components, the presence of additives and other reactant materials, etc. The samples are spatially separated on the substrate such that an array of samples is separately addressable for characterization thereof. The two or more samples can reside in separate containers formed as wells in a surface of a substrate or can be simply dispensed onto a common planar substrate. See paragraph no. 0057 in Kolosov et al. The apparatus taught by Kolosov et al comprises a stimulus generator 12 that applies power to a probe 14 for applying a stimulus to one or more samples 16 in the array or library of samples. The apparatus also includes a sensor or transducer 20 for monitoring a response of one or more

of the samples 16 to the stimulus. The transducer 20 and the stimulus generator 12 are both in communication with a computer sub-system 23 such as a microprocessor or other computer for manipulating data. The computer sub-system 23 may be employed to receive and store data such as responses of samples 16, material properties of samples, etc. Additionally, the computer sub-system may be employed to command other components of the system such as the stimulus generator and the dispensing means, as well as to correlate responses of samples 16 to their respective material properties. See paragraph nos. 0067-0068 in Kolosov et al. The probe 14 may be translated, rotated, reciprocated or oscillated within the samples so as to mix the samples and subject them to different forces. See paragraph no. 0070 in Kolosov et al. For contacting the probe 14 and dispensing means with the samples 16, the samples may be moved relative to the probe 14, or alternatively, the probe 14 may be moved relative to the samples 16. Combinations of these motions may also occur serially or simultaneously. An automated system may be used to move the one or more probes and the dispensing means serially or simultaneously to the various samples of a library. A suitable automated system is a robotic system such as an XYZ robot arm that has a multiple axis range of motion such as in the orthogonal X, Y, and Z coordinate axes system. This automated system is part of or in communication with the computer sub-system 23. See paragraph nos. 0073-0074 in Kolosov et al. Kolosov et al also teach that a plurality of control samples having known material properties are also monitored in the libraries along with the samples so that the responses of the samples can be compared with the known material properties of the controls. The responses of the samples in the library can be related to the known material properties by a mathematical relationship. Kolosov also teach that a parameter of a sample can be measured at a first time followed by measuring the parameter at a

second time and so on during a predetermined period of time. Kolosov teach that one or more processes may be occurring on the samples during this predetermined period of time, and these processes may affect or change the parameter or property of the samples over time. Monitoring may be performed to determine if a particular process has any effect at all on a sample. See paragraph 0096 in Kolosov et al. Kolosov et al also disclose that the temperature of the samples can be elevated once dispensed into the substrate. See claims 22 and 39 in Kolosov et al. This elevation in temperature can be considered a process that may affect the properties or parameters of the sample over time. Kolosov et al do not expressly disclose that the lubricant compositions contain a minor amount of at least one lubricating oil additive.

However, O'Rear discloses that finished lubricants, such as those used for automobiles and diesel engines, consist of two general components: a lube base oil and additives. See paragraph 0002 in O'Rear. The additives in the finished lubricants disclosed in O'Rear are said to be used in amounts that are known to those of skill in the art, preferably about 0.1 to about 40 weight percent of the final lube oil product. See paragraph 0046 in O'Rear. In addition, "additive" by definition means any substance incorporated into a base material, usually in low concentrations, to perform a specific function, e.g. antioxidants, stabilizers, preservatives, thickeners, and viscosity-index improvers. See page 20 of the Condensed Chemical Dictionary.

Based on the combination of Kolosov et al, O'Rear and the Condensed Chemical Dictionary, it would have been obvious to one of ordinary skill in the art to have reasonably expected the lubricant compositions disclosed in Kolosov et al, comprising a lubricant and an additive, to contain a major amount of a base oil and a minor amount of an additive since both O'Rear and the Condensed Chemical Dictionary support such a definition for an additive in a

lubricant composition. In addition, since the high throughput system taught by Kolosov et al is used to measure numerous properties, including viscosity, thermal degradation, aging characteristics and agglomeration or assemblage of molecules, one of ordinary skill in the art would have found these properties useful in determining the storage stability of lubricant oil compositions. As to claim 40, one of ordinary skill in the art would have understood that moving samples relative to the probe 14 also encompasses moving the substrate that contains the individual samples, and one of skill in the art would have recognized a movable carriage as a useful means to move the substrate relative to the probe 14. See Figure 3 in Kolosov et al. As to claim 41, one of ordinary skill in the art would have understood that moving samples relative to the probe 14 encompasses moving individual samples via the robot arm disclosed in Kolosov et al. As to claim 42, since Kolosov et al teach of a robot arm for moving the samples relative to the probe 14, such a robot arm serves to agitate the samples upon picking up the substrate holding the samples and moving the substrate into alignment with the probe 14, similar to the instant invention.

Kolosov et al fail to specifically teach of measuring a first storage stability of a sample in the absence of heating, measuring a second storage stability of the sample after heating the sample for a predetermined time, and comparing the first and second storage stability measurements. However, as mentioned above, Kolosov et al teach that a parameter of a sample can be measured at a first time followed by measuring the parameter at a second time and so on during a predetermined period of time. Kolosov teach that one or more processes may be occurring on the samples during this predetermined period of time, and these processes may affect or change the parameter or property of the samples over time. Monitoring may be

performed to determine if a particular process has any effect at all on a sample. See paragraph 0096 in Kolosov et al. Kolosov et al also disclose that the temperature of the samples can be elevated once dispensed into the substrate. See claims 22 and 39 in Kolosov et al. This elevation in temperature can be considered a process that may affect the properties or parameters of the sample over time. In addition, the secondary reference to O'Rear teaches of heating lubricant oil samples for storage stability measurements since lubricant oil samples are often stored and transported in a heated atmosphere. See paragraph 0034 in O'Rear. Based upon this information disclosed by Kolosov et al and O'Rear, it would have been obvious to one of ordinary skill in the art to measure a first storage stability of a sample in the combinatorial library taught by Kolosov et al in the absence of heating, measure a second storage stability of the sample after heating the sample for a predetermined time, and compare the first and second storage stability measurements since Kolosov et al teach to measure a storage stability parameter of a lubricant oil sample at a first and a second time over a predetermined time period, and also teach that a process such as heating a sample can occur over the predetermined time period. One of ordinary skill in the art would have found it obvious to measure a first storage stability parameter of a sample in the method disclosed by Kolosov et al in the absence of any heating so as to establish a baseline reference value of storage stability, and then measure a second storage stability measurement after a predetermined time period of heating so as to simulate the typical storage and transport conditions of lubricant oil samples, as disclosed by O'Rear, in order to have a standard with which to compare and evaluate the parameter results of the sample after heating. Kolosov et al clearly teach measuring a storage stability parameter at a first and a second time

over a predetermined time period, and teach doing so as a process such as an elevation in temperature is occurring. See paragraph 0096 and claims 22 and 39 in Kolosov et al.

6. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al in view of O'Rear and the Condensed Chemical Dictionary as applied to claims 39-42 above, and further in view of Tolvanen et al (US Patent no. 5,715,046). For a teaching of Kolosov et al, O'Rear and the Condensed Chemical Dictionary, see previous paragraphs in this Office action. Kolosov et al fail to teach that the testing station for measuring storage stability includes a light source and a photocell aligned with the light source.

Tolvanen et al disclose a device that determines the stability or storability of oil by measuring the intensity of light scattering from the oil surface. The measuring device comprises a light source 11, a sample vessel 12 containing an oil sample, and an indicator 14. In operation, a light ray 16 is directed at any angle from the light source 11 onto the surface of the oil in sample vessel 12. Part of the arriving light ray 16 is scattered as a light ray 18 from the oil surface and is detected by indicator 14 at any angle. See Figure 1 and lines 52-63 in column 2 of Tolvanen et al. The indicator 14 is a photocell "aligned" with light source 11 as recited in claim 43.

Based upon a combination of Kolosov et al, O'Rear, the Condensed Chemical Dictionary and Tolvanen et al, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by Kolosov et al for storage stability by optically measuring the formation of sediments in each of the samples since Kolosov et al teach that the plurality of samples in the array are screened for various material characteristics, and both O'Rear and Tolvanen et al teach that it is

common to screen lubricating oil compositions for their storage stability based upon the amount of sediment that forms in the samples over a predetermined time period at a certain temperature. It also would have been obvious to one of ordinary skill in the art to use optical light scattering as a means for measuring sediment formation in the plurality of lubricating oil compositions present in the array of Kolosov et al since Tolvanen et al teach that the measurement of light scatter in an oil sample can be efficiently used to measure the stability of the oil sample by detecting agglomerated particles therein.

7. Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al in view of O'Rear and the Condensed Chemical Dictionary, as applied to claims 39-42 above, and further in view of Garr et al. For a teaching of Kolosov et al, O'Rear and the Condensed Chemical Dictionary, see previous paragraphs in this Office action. Kolosov et al fail to teach that each of the individual test containers that hold the lubricant samples have a bar code attached thereto.

Garr et al teach that it is common in a combinatorial library of reaction products arranged in an array to have each individual reaction container identified by a unique code such as a bar code, which is optically readable. The code can also be stored in the memory of a digital signal processor on a database. See lines 3-10 in column 4 of Garr et al.

Based upon the combination of Kolosov et al, O'Rear, the Condensed Chemical Dictionary and Garr et al, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to label each of the individual test containers in the combinatorial array taught by Kolosov et al with a bar code since Garr et al teach that it is common in the combinatorial library art to uniquely label individual members of the library with a bar code so

as to be able to identify and distinguish the samples and their unique characteristics from one another.

8. Applicant's arguments filed May 19, 2008 have been fully considered but they are not persuasive.

The previous provisional rejections of the claims under the judicially created doctrine of obviousness-type double patenting made in the Office action mailed on November 4, 2005 have been withdrawn in view of either the amendments made to the claims in this application, the amendments made to the claims in the applications upon which the obviousness-type double patenting rejections were based, or the abandonment of the applications upon which the obviousness-type double patenting rejections were based.

Applicants argue the rejection of claims 39-45 set forth by the Board of Appeals and Interferences in the Decision rendered on March 19, 2008 under 35 USC 103 as being obvious over the combination of Kolosov et al, O'Rear, the Condensed Chemical Dictionary, Tolvanen et al and Garr et al by stating that none of these references, either alone or in combination, teach or suggest a system for screening lubricant performance, under program control, which comprises means for measuring a first storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring the first storage stability measurement to a computer controller, wherein the means for measuring the first storage stability measurement is carried out in the absence of heating each lubricating oil composition sample, means for measuring a second storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring the second storage stability measurement to the computer controller, wherein the means for measuring the second storage stability measurement

is carried out after each lubricating oil composition sample is heated to a predetermined temperature for a predetermined time, and means for comparing the second storage stability measurement to the first storage stability measurement of each lubricating oil composition sample to obtain storage stability data for each sample. In response to this argument, it is noted that Kolosov et al teach that a parameter of a sample can be measured at a first time followed by measuring the parameter at a second time and so on during a predetermined period of time. Kolosov teach that one or more processes may be occurring on the samples during this predetermined period of time, and these processes may affect or change the parameter or property of the samples over time. Monitoring may be performed to determine if a particular process has any effect at all on a sample. See paragraph 0096 in Kolosov et al. Kolosov et al also disclose that the temperature of the samples can be elevated once dispensed into the substrate. See claims 22 and 39 in Kolosov et al. This elevation in temperature can be considered a process that may affect the properties or parameters of the sample over time. In addition, the secondary reference to O'Rear teaches of heating lubricant oil samples for storage stability measurements since lubricant oil samples are often stored and transported in a heated atmosphere. See paragraph 0034 in O'Rear. Based upon this information disclosed by Kolosov et al and O'Rear, it would have been obvious to one of ordinary skill in the art to measure a first storage stability of a sample in the combinatorial library taught by Kolosov et al in the absence of heating, measure a second storage stability of the sample after heating the sample for a predetermined time, and compare the first and second storage stability measurements since Kolosov et al teach to measure a storage stability parameter of a lubricant oil sample at a first and a second time over a predetermined time period, and also teach that a process such as heating

a sample can occur over the predetermined time period. One of ordinary skill in the art would have found it obvious to measure a first storage stability parameter of a sample in the method disclosed by Kolosov et al in the absence of any heating so as to establish a baseline reference value of storage stability, and then measure a second storage stability measurement after a predetermined time period of heating so as to simulate the typical storage and transport conditions of lubricant oil samples, as disclosed by O'Rear, in order to have a standard with which to compare and evaluate the parameter results of the sample after heating. Kolosov et al clearly teach measuring a storage stability parameter at a first and a second time over a predetermined time period, and teach doing so as a process such as an elevation in temperature is occurring. See paragraph 0096 and claims 22 and 39 in Kolosov et al.

For all of the above reasons, Applicants' arguments are not found persuasive.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen M. Wallenhorst whose telephone number is 571-272-1266. The examiner can normally be reached on Monday-Wednesday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maureen M. Wallenhorst
Primary Examiner
Art Unit 1797

mmw

August 7, 2008

/Maureen M. Wallenhorst/

Primary Examiner, Art Unit 1797